

17-05-2001

Claims

EXPRESS EK 8160496-891980355

- 27 -

FR000001463

JC13 Rec'd PCT/PTO

SEP 06/NOV 2002

ART 34 AMDT

3/pk

1. Digital-television receiver/decoder device of the type comprising:
- 5       - an input interface (2) suitable for receiving digital-television signals originating from a predetermined broadcast network and for delivering a digital stream of television signals (FMPEG);
- 10       - a demultiplexer/extractor module (6, 50) suitable for extracting, from the digital stream (FMPEG), digital sequences relating to a chosen television program (ST); and
- 15       - a decoder module (14) suitable for converting the digital sequences thus extracted into television signals compatible with a visual-display module (18),
- 20       - a module (40) for recording and playing digital sequences of digital-television programs (ST);
- 25       - a processing module suitable for receiving initialization and marking information relating at least to the start and to the end of a chosen television program, as well as to the reception/extraction of the digital sequences relating to said television program, and for comparing it with the television digital stream (FMPEG) originating from
- 30       the demultiplexer/extractor module, said processing module being suitable, moreover, in response to a positive comparison, for causing the recording of the digital sequences relating to said chosen television program (ST) as well as the initialization and marking information, in the record/replay module (40), and
- 35       - an execution module suitable, at the request of a user, for launching the playing of the digital sequences relating to said television program (ST) thus recorded, in synchronism with the initialization and marking information, characterized in that it further

ART 34 AMDT

comprises a supplementary processing module (60) able to run a predetermined software application (WEA) further containing said initialization and marking information, the software application (WEA) being run in synchronism and in interactive mode with the playing of the digital-television program thus recorded with the aid of said initialization and marking information.

2. The device as claimed in Claim 1, characterized in that the supplementary processing module (60) consists of Internet-type processing means suitable for cooperating with memory-storage means (62) able to store an Internet browser serving for Internet browsing, and in that the receiver/decoder device further comprises a communications module (30) able to communicate with a remote server according to an Internet-type communications protocol or the like.

3. The device as claimed in Claim 2, characterized in that the communications module (30) is able to download the software application (WEA) originating from the remote server.

4. The device as claimed in Claim 1, characterized in that it comprises a media player able to read a data medium containing the software application (WEA).

5. The device as claimed in Claim 1, characterized in that it comprises means suitable for receiving the software application (WEA) with the digital-television stream.

6. The device as claimed in any one of Claims 1 to 5, characterized in that the execution module is suitable for launching the playing of the digital sequences relating to the chosen television program and the running of the software application (WEA) on the same visual-display module (18).

7. The device as claimed in any one of Claims 1 to 6, characterized in that it further comprises

man/machine interface means (20, 21, 23, 25), the actuation of which allows the user to interact simultaneously and in synchronism in the playing of the recorded television program (ST) and in the running of the Internet application (WEA).

8. The device as claimed in Claims 2 or 3 and 7, characterized in that the Internet processing means (60) are suitable for cooperating with the visual-display module (18) as well as the man/machine interface means of the receiver/decoder device.

9. The device as claimed in Claim 8, characterized in that the demultiplexer/extractor module (6, 50, 52) is able to extract the initialization and marking information of the television program and to send it to the Internet processing means (60) so as, at the request of the user, to allow running of the Internet application (WEA) in local mode and/or in cooperation with the remote server, in synchronism with the playing of the recorded television program.

10. The device as claimed in Claim 2, characterized in that the Internet processing means (60) are suitable, in cooperation with the processing means (12) of the receiver/decoder, for driving the record/replay module (40).

11. The device as claimed in Claim 10, characterized in that the Internet processing means (60) are suitable for delivering, to the record/replay module (40), commands of the stop, pause, pause start, start, slow, fast forward, rewind, jump forward, jump back, etc, type.

12. The device as claimed in one of the preceding claims, characterized in that it further comprises an image-composition module (16) suitable for receiving the video images output by the decoder module (14) as well as the graphics images output by the Internet

processing means (60), so as to combine them according to a chosen image-composition mode.

13. The device as claimed in Claim 12, characterized in that the image-composition mode is of overprint, multi-windowing, text, image-combining type.

14. The device as claimed in Claim 12, characterized in that the image-composition module (16) comprises:

- a first memory (100) suitable for containing the video images output by the decoder module (14);
- 10       - a second memory (102) suitable for containing the graphics information output by the Internet processing means (60, 19);
- a third memory (104) suitable for containing an image-composition program;
- 15       - image-processing means (106) suitable for extracting the chosen information from the first and second memories depending on the composition program, so as to produce the composite images;
- a module (112) for synchronization of the
- 20       visual-display module (18), so as to synchronize the composition of images output by the two memories.

15. The device as claimed in one of the preceding claims, characterized in that it comprises an interface of serial type and/or an interface of high-throughput link type so as to connect peripheral equipment of the printer, video/camera system, audio suite or video peripheral type.

16. A method of processing digital-television signals of the type comprising the following stages:

- 30       - a) receiving digital-television signals originating from a predetermined broadcast network and delivering a digital stream of television signals (FMPEG);

ART 34 AMDT

- b) extracting, from the digital stream (FMPEG), digital sequences relating to a chosen television program (ST); and
- c) converting the digital sequences thus  
5 extracted into television signals compatible with a visual-display module,
- d) receiving initialization and marking information relating at least to the start and to the end of a chosen television program, as well as to the  
10 reception/extraction of the digital sequences relating to said chosen television program, and comparing it with the television digital stream (FMPEG) originating from the demultiplexer/extractor module;
- e) in response to a positive comparison,  
15 causing the recording of the digital sequences relating to said chosen television program (ST) as well as the initialization and marking information, in the record/replay module (40), and
- f) at the request of a user, launching the  
20 playing of the digital sequences relating to said television program (ST) thus recorded, characterized in that it further comprises a prior step of implementing a software application (WEA) able to contain, in addition, said initialization and marking information,  
25 and in that the playing step f) is run in synchronism and in interactive mode with the running of the software application (WEA) with the aid of the initialization and marking information.

17. A software product for a digital-television  
30 receiver/decoder device, of the type comprising initialization and marking information relating at least to the start and to the end of a chosen digital-television program, as well as to the reception/extraction of the digital sequences relating  
35 to said chosen television program, said initialization

and marking information being intended to be compared with a television digital stream, and, in the event of a positive comparison, said software product being able to cause the recording of the digital sequences relating to said chosen television program as well as the initialization and marking information, characterized in that said initialization and marking information is contained in a software application (WEA) capable of being run in synchronism and in interactive mode with the playing of the digital-television program thus recorded with the aid of the initialization and marking information.

18. The software product as claimed in Claim 17, characterized in that the software application (WEA) is capable of being run on-line with a remote server.

19. The software product as claimed in Claim 17, characterized in that the software application (WEA) is capable of being contained on a data medium, and/or distributed by downloading.